

## ABSTRACT

The present invention provides unique technology, systems and methods of cultivating different types of seaweeds, including, but not limited to, *Porphyra (Nori)*, *Laminaria*, *Undaria*, *Eucheuma*, *Gracillaria*, *Ulva*, *Sargassum*, *Codium*, *Cladophora*, *Ascophyllum*, *Palmaria*, *Furcellaria*, *Fucus* or *Enteromorpha*, in land-based seawater ponds having a climatically suitable and nutrient controlled environment. These land-based ponds may be built in any part of the world with structural engineering and architectural modifications. The invention provides methods of designing different stages of growth, and defining the special conditions to optimize each of the different stages in controlled environments. The technology includes techniques of enriching the seaweeds with desired nutrients and ingredients for the production of high quality products that are free of marine pollutants, in addition to generating maximum yields under optimum, clean, temperature controlled and stable environmental conditions.